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**Chemical composition and attenuates quorum sensing regulated virulence and biofilm formation of avocado oil**Hanan M Al-Yousef<sup>1</sup>, Wafaa H B Hassan<sup>2</sup>, Musarat Amina, and Syed Rizwan Ahamad<sup>3</sup><sup>1</sup>Department of Pharmacognosy, College of Pharmacy, King Saud University, Saudi Arabia<sup>2</sup>Department of Pharmacognosy, College of Pharmacy, Zagazig University, Egypt<sup>3</sup>Central laboratory, Department of Pharmaceutical Chemistry, College of Pharmacy, King Saud University, Saudi Arabia

**Background:** The aim of this study was to investigate the chemical components of avocado oil as well as to explore the effect of this oil on QS and related virulence factors of *P. aeruginosa*. QS is a key regulator of virulence factors of *P. aeruginosa* such as BF, motility, productions of proteases, hemolysin, and PPcyanin. The pathogenesis of bacteria might be owing to their ability to sense and respond to population density. QSI system is considered as a new technique for the development of antipathogenic agents, mainly for drug-resistant bacterial.

**Method:** In this study, we are identified the chemical compositions from oil of avocado by using GC/MS, also, the anti-QS activity of avocado oil was investigated against CVO26 and PAO1.

**Result:** A total of 23 compounds representing 98.67% by using GC/MS. Avocado oil inhibits the QS-mediated virulence factors production such as violacein in CVO26 and elastase, PPcyanin in PAO1. In addition to, the using of sub-MICs of avocado oil significantly inhibited the QS-mediated BF, EPS production and swarming motility.

**Conclusion:** This study illustrated, for the first time, the importance of avocado oil composition as QSI and virulence suppressors of PAO1 and as a potent antioxidant. Thus, this oil could provide a natural source for the inhibition of *Pseudomonas* toxins.

**Biography**

Hanan M Al-Yousef have worked in MOH in the field of Narcotic and Psychiatric Drugs. Also, in the field of licences for medicine and pharmacy. He worked in Pharmacy College, KSU, Riyadh, as associate professor in Pharmacognosy. He also was participated in teaching of the courses at different levels (under and post-graduate students). In addition, He worked as Vice dean of Al-Ghad international health sciences (a private college) and he Certified a coach for the dissemination of the culture of dialog from centre of national dialog. He has many activities as participate in university celebrations. Participating in the arbitration of research proposals, day of scientific research, unified program of admission to health colleges and he attended many workshops and courses inside and outside the university, in addition to, my involvement in many committees. Also, as volunteer to serve the community. He has written two books.

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